IN THE CLAIMS

1. – 4. (canceled)

5. (previously presented) A virtual private network construction system for a public data communication network comprising:

first relaying apparatuses generating and multicasting control packets each of which contains a multicast address for constructing a virtual private network, and

second relaying apparatuses establishing virtual links to the first relaying apparatuses which are transmitting sources of the control packets upon receipt thereof and for returning reply packets through the virtual links,

whereby the virtual links are established between all pairs of virtual relaying structures included and independently operable per virtual private network in the first and the second relaying apparatuses to construct the virtual private networks that are preliminarily associated with the virtual relaying structures provided with receiving virtual interfaces and belonging to a multicast address group represented by the multicast address.

6. (previously presented) The virtual private network construction system as claimed in claim 5 wherein the second relaying apparatuses establishing the virtual links authenticate the control packets received.

7. (previously presented) The virtual private network construction system as claimed in claim 5 wherein the virtual links comprise IP tunnels.

8. (previously presented) The virtual private network construction system as claimed in claim 5 wherein the virtual links comprise MPLS tunnels.

9. **(currently amended)** A relaying apparatus, which terminates virtual private networks within a public data communication network comprising:

virtual relaying structures that are preliminarily associated with the virtual private networks and independently operable per virtual private network,

~~means~~ a packet unit generating and multicasting control packets each of which contains a multicast address for constructing a virtual private network, and

~~means~~ a link unit establishing virtual links to other relaying apparatuses which are transmitting sources of the control packets upon receipt thereof and for returning reply packets through the virtual links,

whereby the virtual links are established between all pairs of virtual relaying structures in different relaying apparatuses to construct the virtual private network, the virtual relaying structures being provided with receiving virtual interfaces and belonging to a multicast address group represented by the multicast address.

10. (original) The relaying apparatus as claimed in claim 9, further comprising means for authenticating the control packets received.

11. (original) The relaying apparatus as claimed in claim 9, further comprising means for generating a routing table for each of a plurality of virtual networks logically independent of one another, and means for performing a packet relay of each virtual network based on the routing table.

12. (original) The relaying apparatus as claimed in claim 9 wherein the virtual links comprise IP tunnels.

13. (original) The relaying apparatus as claimed in claim 9 wherein the virtual links comprise MPLS tunnels.